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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/467,530 12/20/99 DANISH

P VAL-458-A

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EXAMINER

PEREZ, G

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

09/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/467,530

Applicant(s)

DANISH ET AL.

Examiner

Guillermo Perez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 8-14 and 19-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 15-18 and 25-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 1-7 in Paper No. 7 is acknowledged. The traversal is on the ground(s) that the newly added claims 23-24 are linking claims for the process and the product claims pursuant to MPEP 809.03. This is not found persuasive because MPEP 809.03 states that "The most common types of linking claims which, if allowed, act to prevent restriction between inventions that can otherwise be shown to be divisible, are"..."(B) a claim to the necessary process of making a product linking proper process and product claims". The plastic annular sleeve and thrust member can be made by other materially different process like extrusion, vacuum forming, machining and other processes and then pressed or inserted in the assigned position. The formation of the plastic annular sleeve and thrust member by injection molding in situ ("in position" in Latin) is not a necessary process of making (as stated in MPEP 809.03) to form them since there are other suitable processes to obtain the same structure.

The requirement is still deemed proper and is therefore made FINAL.

Newly submitted claims 19-24 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 19-24 are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant

Art Unit: 2834

case the annular sleeve can be made by extrusion, vacuum forming, or machining; then inserted into the bore of the housing by press-fit.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 8-14 and 19-24 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

This application contains claims 8-14 and 19-24 drawn to an invention nonelected with traverse in Paper No. 6. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the engaging of the sleeve on "the outer diameter of the tip end portion of the shaft only in response to radial loads acting to deflect the shaft into contact with the annular sleeve" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7, 15-18 and 25-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The application as originally filed does not disclose that the shaft is cantilevered, as now claimed. A cantilevered shaft is a shaft "supported at only one end" Merriam-Webster's Collegiate Dictionary Tenth Edition. The shaft in the application as originally filed is supported at more than one end, as can be seen in the drawings and read in the written description. There is no support for that claim limitation in the application.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 15-18 and 25-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites the limitation "the chamber" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 27 recites the limitation "the aperture" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2834

While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). The term "cantilevered" in claims 1, 6, 17, and 25 is used by the claim to mean "a flexed shaft," while the accepted meaning is a shaft "supported at only one end."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted Prior Art (AAPA) in view of Mackay et al. (U. S. Pat. 5,485,044).

AAPA discloses a motor/gear drive having a cantilevered shaft with a worm gear carried thereon and a free tip end portion with an outer diameter terminating in an end wall, a housing having a bore formed coaxial with respect to the shaft to be installed therein. AAPA discloses a plastic thrust member operable to be in engagement with the end wall of the shaft to be installed to prevent axial movement of the shaft.

However, AAPA does not disclose that the plastic thrust member within the bore of the housing is disposed to be in coaxial registry with the end wall of the shaft to be installed.

Mackay et al. disclose that the thrust member (24) within the bore of the housing (14) is disposed to be in coaxial registry with the end wall of the shaft (78) to be installed. The invention of Mackay et al. has the purpose of accurately controlling the end play of the armature shaft.

It would have been obvious at the time the invention was made to modify the motor/gear drive of AAPA and provide it with the thrust member of Mackay et al. for the purpose of accurately controlling the end play of the armature shaft.

Referring to claim 7, no patentable weight has been given to the method of manufacturing limitations (i. e. injection molded) since "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

2. Claims 1-2, 4-5, 15-18, 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Oyafuso (U. S. Pat. No. 5,144,738) and further in view of Mackay et al. (U. S. Pat. 5,485,044).

AAPA discloses a motor/gear drive having a cantilevered shaft with a worm gear carried thereon and a free tip end portion with an outer diameter terminating in an end wall. AAPA discloses a housing having a bore formed coaxial with respect to the shaft to be installed therein. AAPA discloses a plastic thrust member within the bore of the

housing disposed to be in coaxial registry with the end wall of the shaft to be installed, and operable to be in engagement with the end wall of the shaft to be installed to prevent axial movement of the shaft.

However, AAPA does not disclose a plastic annular sleeve within the bore of the housing concentrically disposed to be positionable about the outer diameter of the tip end portion of the shaft to be installed and to be nominally spaced radially from the outer diameter of the tip end portion. AAPA does not disclose that the sleeve is operable to supportingly engage the outer diameter of the tip end portion of the shaft only in response to radial loads acting to deflect the shaft into contact with the annular sleeve. AAPA does not disclose that the sleeve is an injection molded sleeve formed in situ within the bore of the housing. AAPA does not disclose that the sleeve having a bore extending therethrough, the bore having an inner diameter larger than the outer diameter of the tip end portion of the shaft to be installed. AAPA does not disclose that the thrust member is an injection molded thrust member formed in situ within the bore of the housing. AAPA does not disclose that the thrust member injection molded after installation of the shaft, wherein a portion of the end wall of the shaft defines at least a portion of the chamber to receive injected plastic forming the thrust member during injection molding.

AAPA does not disclose that the outer diameter of the tip end portion of the shaft to be installed being larger than a diameter of the thrust member engageable with the end wall of the tip end portion of the shaft. AAPA does not disclose an aperture having a first portion of a first diameter and an axially endmost, coaxial, second portion of a

smaller diameter, a shoulder formed between the first and second portions, and a first gate formed in the housing communicating with the first portion. AAPA does not disclose a second gate formed in the housing communicating with the second portion. AAPA does not disclose at least one peripheral wall defining an enclosed area with at least one open side, at least one aperture formed within the peripheral wall and engageable to encircle part of the free tip end portion of the cantilevered shaft to be installed. AAPA does not disclose a portion of the end wall of the shaft defines at least a portion of a chamber to receive injected plastic forming the thrust member during injection molding.

Oyafuso discloses a plastic annular sleeve (14) within the bore of the housing (20) concentrically disposed to be positionable about the outer diameter of the tip end portion of the shaft (12) to be installed and to be nominally spaced radially from the outer diameter of the tip end portion. Oyafuso discloses an aperture having a first portion of a first diameter and an axially endmost, coaxial, second portion of a smaller diameter, a shoulder formed between the first and second portions, and a first gate formed in the housing communicating with the first portion (figure 2). Oyafuso discloses a second gate formed in the housing communicating with the second portion (figure 2). Oyafuso's invention has the purpose of reducing wear due to any radial misalignment.

Mackay et al. disclose that the sleeve is operable to supportingly engage the outer diameter of the tip end portion of the shaft (78 in figures 4-6) only in response to radial loads acting to deflect the shaft (78) into contact with the annular sleeve. Mackay et al. disclose a portion (74,202) of the end wall of the shaft (78) defines at least a

portion of the chamber (44). Mackay et al. disclose that the outer diameter of the tip end portion of the shaft (78) to be installed being larger than a diameter of the thrust member (24) engageable with the end wall of the tip end portion of the shaft (78). Mackay et al. disclose at least one peripheral wall defining an enclosed area with at least one open side, at least one aperture formed within the peripheral wall and engageable to encircle part of the free tip end portion of the cantilevered shaft to be installed. The invention of Mackay et al. has the purpose of accurately controlling the end play of the armature shaft.

It would have been obvious at the time the invention was made to modify the motor/gear drive of APA and provide it with the plastic annular sleeve and housing configuration disclosed by Oyafuso and Mackay et al. for the purpose of reducing wear due to any radial misalignment and accurately controlling the end play of the armature shaft.

Referring to claims 2, 5, 15, 17-18, 25-26, no patentable weight has been given to the method of manufacturing limitations (i. e. injection molding, injection molded after installation, receiving injected plastic during injection molding, formed in situ) since "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Oyafuso and further of Mackay et al. as applied to claim 1 above, and further in view of Umezawa et al. (U. S. Pat. 5,218,256).

AAPA, Oyafuso and Mackay et al. disclose motor/gear drive as described on item 2 above. Oyafuso discloses that the bore have an inner diameter larger than the outer diameter of the tip end portion of the shaft (12) to be installed. However, neither AAPA, Oyafuso nor Mackay et al. disclose that the sleeve have a bore extending therethrough.

Umezawa et al. disclose that the sleeve have a bore extending therethrough for the purpose of protruding the shaft outside the annular side face of the sleeve bearing.

It would have been obvious at the time the invention was made to modify the motor/gear drive of AAPA, Oyafuso and Mackay et al. and provide it with the bore extending therethrough as disclose by Umezawa et al. for the purpose of protruding the shaft outside the annular side face of the sleeve bearing.

Response to Arguments

Applicant's arguments with respect to claims 1-5, 15-18, 25-28 have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicants' argument that Mackay et al do not disclose a plastic thrust member, it must be noted that the Applicant's prior art disclose an elastomer (plastic) thrust member to hold the shaft in the axial direction.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Art Unit: 2834

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez
September 19, 2001



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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800